



August 28, 1956

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George:

Since our Drift Sight Project Engineer's trip to the Ranch on July 9, we have initiated action to correct a number of problems in the Drift Sight. These are problems which have shown up through use of the Drift Sight in actual practice. A number of these things have already been covered in his summary contained in his report dated July 18, entitled "Trip to Projector Sight July 9-11."

Prisms: Two Drift Sights which had been returned from the field and are now in our hands have had the scanning prism edge sharpened to eliminate the blurry line caused by this prism edge in the field of vision. Upon completion of this work, the units will be returned to the field through EFM, and two field units will be requested in return (on a rotation basis) for sharpening of the prism edge. We will be dependent upon EFM to keep sending us Drift Sights for this work as he receives corrected Drift Sights from us. I covered this matter in conversation with EFM on August 23, 1956.

Reticle Pattern: At the same time as the prisms are being corrected, the reticle will be changed to furnish another pattern. Use in the field has shown the advisability of furnishing a broken center mark to define optical axis of the Drift Sight.

Input Collars: Modified input collars for use at the head of the Drift Sight to prevent flexible shaft bending have been designed and a set of two furnished to [redacted] at Hycon. These particular parts have been furnished to Hycon since they are maintaining the Drift Sight and are in a position and have the facilities for removing the old input collar and installing the new.

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Plastic Lenses: A quantity of ten extra plastic lenses is being produced now for replacement of the scratched plastic lenses in the Drift Sight eyepieces. To date we have been able to determine that Detachment A requires four such plastic lenses; Detachment B's exact needs are unknown at this moment although two plastic lenses were shipped to them prior to departure, and of the installations currently existant at the Ranch site, only four plastic lenses are required there. On a trip during the week of August 20 to the Ranch, an examination of the plastic lenses revealed:

Article 343. The yellow filter had been removed. In the process of reassembling the retaining ring, it had evidently been over-tightened to the extent that the two plastic lenses of the eyepiece were so squeezed together that the air space normally existing between their vertices was eliminated and the vertices contacted and pressed together. At the point

*enc. Octon/Drift/Sights*

*SMC*

George

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of contact of the vertices, a flat spot exists causing variation of magnification in this area which is approximately 1/2" in diameter. This explains the complaint from the sextant people on "variable magnification."

Article 344. The yellow filter had been removed from the eyepiece. The exposed surface of the plastic lens was deeply scored with concentric scratches. In addition, the vertices of the lenses have been forced into contact causing a flat spot as described for Article 343. The concentric scratches, I found, were due to the first attempt by LAC people in providing a Drift scale. The first scale was made of plastic which warped and its scored lines rubbed against the plastic eyepiece causing the concentric scratches. Where plastic lens vertices have been squeezed together, it will be necessary to replace both plastic lenses. The plastic lenses which will be supplied ~~by~~ as replacements will also be furnished with a special arrangement for separating the two lenses to a sufficient degree that over-tightening of the retainer ring and consequent plastic deformation of the lenses will prevent them from contacting.

Clear Filter: A quantity of 20 clear filters plus an additional amount for spares are being manufactured of CR-39 plastic (high abrasion resistant plastic) to take the place of the yellow filters which have been removed from all Drift Sights. This clear plastic will protect the plastic lens from further scratching due to cleaning or other causes. It should be emphasized here that the placement of the clear filter and the replacement of the plastic lenses are to be done only by qualified maintenance personnel who have been trained in this job by Peco.

Drift Sight Scale: Following the suggestion of EFM, we have manufactured one movable Drift scale which is placed over the eyepiece. This unit is to be shipped to the field during the week of September 3. Further tests on this unit plus the two units that EFM has made will determine whether field modification kits will be provided for all Drift Sights. A conversation with EFM has indicated that such a decision should be forthcoming from his test people the week of September 10.

Desiccation: A service bulletin concerning the desiccation of the Drift Sight was prepared and issued to all concerned in the month of July. A copy of this bulletin is attached for your information. (As part of this desiccation problem, the service bulletin was also issued for the Tracking Camera.)

The above information should serve to bring you up-to-date on the action we have taken to overcome some of the adverse comments we have received from various sources on the Drift Sight. An additional report will be forthcoming from EFM on additional tests that have been made concerning accuracy of the Tracker since the auto pilot is still not functioning perfectly. Any such information should be corrected where possible for auto pilot errors.



TWM/dmg  
cc: EFM  
WAS